# CIVIL TECH LABS

Accredited by NABL as per ISO/ IEC 17025 : 2005

# 5, 1st Cross, Srinivasa Colony, Mission Road, Bangalore - 560027

Ph: 080 - 4114 2867 / Mob. : 96862 31801, Email: civiltechlabs@gmail.com

T-2654


To,

Assistant Executive Engineer,
Kodigehalli Sub Division,
BBMP.

24th September 2016

Dear Sir,

**Sub:** Improvements of ~~side~~ drains and drains in ward no. 08 at Kodigehalli sub division.
Testing of cubes – Reg.

As requested the 07th day Compressive Strength Test of Cubes was carried out for the above work for the samples supplied by you.

Please find the enclosed Test Reports of the above.

Thanking you,

**For Civil Tech Labs,**

**(KHUSHBOO L.)**
**Quality Manager**

CIVIL TECH LABS BANGALORE

# CIVIL TECH LABS

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Ph: 080 - 4114 2867, Email: civiltechlabs@gmail.com


## TEST REPORT

### COMPRESSIVE STRENGTH TEST ON CONCRETE CUBES

| | |
|---|---|
| **Name & Address of the Customer** | AEE, Kodigehalli Sub Division, BBMP. |
| **Name of Work** | Improvements of ~~side~~ drains and storm water drains in ward no. 08 at Kodigehalli sub division. |
| **Name of Agency** | Sri. C. Narasaraju |
| **Grade of Concrete** | M-20 |
| **Location** | Drain |
| **No. of cubes tested** | 3 |
| **Technical Reference** | IS: 516-1959 (Reaffirmed 2013) |

| Sl. No. | ID | Dimension of specimen (mm) | Cross sectional area ($mm^2$) | Date of Casting | Date of Testing | Age at test (Days) | Weight (Kg) | Failure Load (KN) | Compressive Strength ($N/mm^2$) | Avg Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Sample-1 | 150.06 X 150.07 X 150.0 | 22520 | 16/09/2016 | 23/09/2016 | 7 | 8.22 | 338 | **15.02** | **14.84** |
| 2 | | 150.05 X 150.04 X 150.0 | 22514 | | | | 8.21 | 334 | **14.84** | |
| 3 | | 150.03 X 150.05 X 150.0 | 22512 | | | | 8.19 | 330 | **14.67** | |

**Note:**

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4. The results are based on the test conducted on samples supplied by the customer.

CIVIL TECH LABS BANGALORE

(KHUSHBOO L.)
**Quality Manager**

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## TEST REPORT

### COMPRESSIVE STRENGTH TEST ON CONCRETE CUBES

| | |
|---|---|
| **Name & Address of the Customer** | AEE, Kodigehalli Sub Division, BBMP. |
| **Name of Work** | Improvements of ~~side~~ drains and drains in ward no. 08 at Kodigehalli sub division. (Storm water) |
| **Name of Agency** | Sri. C. Narasaraju |
| **Grade of Concrete** | M-20 |
| **Location** | Drain |
| **No. of cubes tested** | 3 |
| **Technical Reference** | IS: 516-1959 (Reaffirmed 2013) |

| Sl. No. | ID | Dimension of specimen (mm) | Cross sectional area ($mm^2$) | Date of Casting | Date of Testing | Age at test (Days) | Weight (Kg) | Failure Load (KN) | Compressive Strength ($N/mm^2$) | Avg Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Sample-2 | 150.05 X 150.04 X 150.0 | 22514 | 16/09/2016 | 23/09/2016 | 7 | 8.20 | 352 | **15.64** | **15.56** |
| 2 | | 150.06 X 150.07 X 150.0 | 22520 | | | | 8.21 | 350 | **15.56** | |
| 3 | | 150.07 X 150.05 X 150.0 | 22518 | | | | 8.19 | 348 | **15.47** | |

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(RHUSHBOO L.)
Quality Manager

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## TEST REPORT

### COMPRESSIVE STRENGTH TEST ON CONCRETE CUBES

| | |
|---|---|
| **Name & Address of the Customer** | AEE, Kodigehalli Sub Division, BBMP. |
| **Name of Work** | Improvements of ~~side~~ Storm water drains and drains in ward no. 08 at Kodigehalli sub division. |
| **Name of Agency** | Sri. C. Narasaraju |
| **Grade of Concrete** | M-20 |
| **Location** | Drain |
| **No. of cubes tested** | 3 |
| **Technical Reference** | IS: 516-1959 (Reaffirmed 2013) |

| Sl. No. | ID | Dimension of specimen (mm) | Cross sectional area (mm²) | Date of Casting | Date of Testing | Age at test (Days) | Weight (Kg) | Failure Load (KN) | Compressive Strength (N/mm²) | Avg Compressive Strength (N/mm²) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Sample-3 | 150.06 X 150.04 X 150.0 | 22515 | 16/09/2016 | 23/09/2016 | 7 | 8.19 | 330 | **14.67** | **14.87** |
| 2 | | 150.07 X 150.05 X 150.0 | 22518 | | | | 8.20 | 338 | **15.02** | |
| 3 | | 150.05 X 150.04 X 150.0 | 22514 | | | | 8.21 | 336 | **14.93** | |

AE-B

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Quality Manager

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## TEST REPORT

### COMPRESSIVE STRENGTH TEST ON CONCRETE CUBES

| | |
|---|---|
| **Name & Address of the Customer** | AEE, Kodigehalli Sub Division, BBMP. |
| **Name of Work** | Improvements of ~~side~~ Storm water drains and drains in ward no. 08 at Kodigehalli sub division. |
| **Name of Agency** | Sri. C. Narasaraju |
| **Grade of Concrete** | M-20 |
| **Location** | Covering Slab |
| **No. of cubes tested** | 3 |
| **Technical Reference** | IS: 516-1959 (Reaffirmed 2013) |

| Sl. No. | ID | Dimension of specimen (mm) | Cross sectional area ($mm^2$) | Date of Casting | Date of Testing | Age at test (Days) | Weight (Kg) | Failure Load (KN) | Compressive Strength ($N/mm^2$) | Avg Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CC Work | 150.09 X 150.07 X 150.0 | 22524 | 17/09/2016 | 24/09/2016 | 7 | 8.20 | 344 | **15.29** | **15.20** |
| 2 | | 150.06 X 150.05 X 150.0 | 22517 | | | | 8.21 | 342 | **15.20** | |
| 3 | | 150.07 X 150.06 X 150.0 | 22520 | | | | 8.19 | 340 | **15.11** | |

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**(KHUSHBOO L.)**
**Quality Manager**

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Ph: 080 - 4114 2867 / Mob. : 96862 31801, Email: civiltechlabs@gmail.com

T-2654


To,

Assistant Executive Engineer,
Kodigehalli Sub Division,
BBMP.

09th September 2016

Dear Sir,

**Sub:** Testing of Materials.

As requested, tests on physical properties were carried out for the Materials supplied by you, for the work of **'Improvements of ~~side~~ drains and drains in ward no. 08 at Kodigehalli sub division.'**

Please find the enclosed Test Reports of the above.

**Thanking You,**
**For Civil Tech Labs**

CIVIL TECH LABS BANGALORE

**(KHUSHBOO L.)**
**Quality Manager**

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## TEST REPORT

## TEST ON CEMENT

| | |
|---|---|
| **Name & Address of the Customer** | AEE, Kodigehalli Sub Division, BBMP. |
| **Name of Work** | Improvements of ~~side~~ Storm water drains and drains in ward no. 08 at Kodigehalli sub division. |
| **Name of the Agency** | Sri. C. Narasaraju |
| **Date of Testing** | 09/09/2016 |

| Tests | Test Method As Per IS & Apparatus | | Results | | Requirements As Per IS 8112:1989 | Remarks |
|---|---|---|---|---|---|---|
| | IS Code | Method | Value | Unit | | |
| Initial Setting Time | **IS-4031 (Part-5) 1988** | VICAT | 49 | min | Not Less Than 30 Minutes | Satisfies Requirement |
| Final Setting Time | **IS-4031 (Part-5) 1988** | VICAT | 489 | min | Not More Than 600 Minutes | Satisfies Requirement |
| Soundness | **IS-4031 (Part-3) 1988** | LE-CHATELIER | 4 | mm | Not More Than 10 mm | Satisfies Requirement |

AE-B

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**Quality Manager**

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## TEST REPORT

### GRADATION TEST ON FINE AGGREGATES

| | |
|---|---|
| **Name & Address of the Customer** | AEE, Kodigehalli Sub Division, BBMP. |
| **Name of Work** | Improvements of ~~side~~ Storewater drains and drains in ward no. 08 at Kodigehalli sub division. |
| **Name of Agency** | Sri. C. Narasaraju |
| **Date of Testing** | 09/09/2016 |
| **Specific Gravity** | **2.56** |
| **Technical Reference** | IS : 2386(Part I)–1963 (Reaffirmed 2011), IS : 2386 ( Part III )–1963 (Reaffirmed 2011 ) |

| Sample | IS Sieve designation (mm) | Sieve Analysis (% Passing IS Sieve) | Grading Requirement as per IS:383-1970 (Reaffirmed 2011) | | | | Grading Zone | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | ZONE-I | ZONE-II | ZONE-III | ZONE-IV | | |
| River Sand | 10 | **100** | 100 | 100 | 100 | 100 | II | Satisfies the requirement |
| | 4.75 | **98.2** | 90-100 | 90-100 | 90-100 | 95-100 | | |
| | 2.36 | **87.1** | 60-95 | 75-100 | 85-100 | 95-100 | | |
| | 1.18 | **77.3** | 30-70 | 55-90 | 75-100 | 90-100 | | |
| | 0.6 | **48.3** | 15-34 | 35-59 | 60-79 | 80-100 | | |
| | 0.3 | **25.1** | 5-20 | 8-30 | 12-40 | 15-50 | | |
| | 0.15 | **7.9** | 0-10 | 0-10 | 0-10 | 0-15 | | |

AE-8

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## TEST REPORT

### GRADATION TEST ON COARSE AGGREGATES 40mm ↓ Graded

| | |
|---|---|
| **Name & Address of the Customer** | AEE, Kodigehalli Sub Division, BBMP. |
| **Name of Work** | Improvements of ~~side~~ drains and storm water drains in ward no. 08 at Kodigehalli sub division. |
| **Name of Agency** | Sri. C. Narasaraju |
| **Date of Testing** | 09/09/2016 |
| **Specific Gravity** | **2.66** |
| **Water Absorption** | **0.28%** |
| **Technical Reference** | IS : 2386(Part I)–1963 (Reaffirmed 2011), IS : 2386 ( Part III )–1963 (Reaffirmed 2011 ) |

| IS Sieve Designation (mm) | Sieve Analysis (% Passing IS Sieve) | Grading Requirement as per IS:383-1970 (Reaffirmed 2011) | Remarks |
|---|---|---|---|
| 80 | **100** | 100 | **Satisfies the requirement** |
| 40 | **99.1** | 95-100 | |
| 20 | **56.2** | 30-70 | |
| 10 | **27.3** | 10-35 | |
| 4.75 | **3.3** | 0-5 | |

AE-8

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## TEST REPORT

TESTS ON REINFORCEMENT STEEL BAR 16 mm

| | |
|---|---|
| **Name & Address of the Customer** | AEE, Kodigehalli Sub Division, BBMP. |
| **Name of Work** | Improvements of ~~side~~ Storm water drains and drains in ward no. 08 at Kodigehalli sub division. |
| **Name of the Agency** | Sri. C. Narasaraju |
| **Date of testing** | 09/09/2016 |
| **Grade of Steel** | Fe - 500. |

| Sl.No. | Description | Result | IS 1786-2008 Min. Requirements | Remarks |
|---|---|---|---|---|
| 1 | Measured Diameter mm | 16 | 16 | Satisfactory |
| 2 | Wt/m Length (Kg/m) | 1.59 | 1.58 | Satisfactory |
| 3 | Bend & RebendTest | Pass | Should not Crack or Fracture | Satisfactory |
| 4 | Elongation (%) | 15.1 | 12 | Satisfactory |
| 5 | Yield Stress(N/Sq.mm) | 520 | 500 | Satisfactory |
| 6 | U T S (N/Sq.mm) | 578 | 545 | Satisfactory |

AE-8

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(KHUSHBOO L)
Quality Manager

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## TEST REPORT

TESTS ON REINFORCEMENT STEEL BAR 12 mm

| | |
|---|---|
| **Name & Address of the Customer** | AEE, Kodigehalli Sub Division, BBMP. |
| **Name of Work** | Improvements of ~~side~~ drains and storm water drains in ward no. 08 at Kodigehalli sub division. |
| **Name of the Agency** | Sri. C. Narasaraju |
| **Date of Testing** | 09/09/2016 |
| **Grade of Steel** | Fe - 500. |

| Sl.No. | Description | Result | IS 1786-2008 Min. Requirements | Remarks |
|---|---|---|---|---|
| 1 | Measured Diameter mm | 12 | 12 | Satisfactory |
| 2 | Wt/m Length (Kg/m) | 0.889 | 0.888 | Satisfactory |
| 3 | Bend & RebendTest | Pass | Should not Crack or Fracture | Satisfactory |
| 4 | Elongation (%) | 14.9 | 12 | Satisfactory |
| 5 | Yield Stress(N/Sq.mm) | 511 | 500 | Satisfactory |
| 6 | U T S (N/Sq.mm) | 568 | 545 | Satisfactory |

AE-B

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**Quality Manager**

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## TEST REPORT

TESTS ON REINFORCEMENT STEEL BAR 10mm

| | |
|---|---|
| **Name & Address of the Customer** | AEE, Kodigehalli Sub Division, BBMP. |
| **Name of Work** | Improvements of ~~side~~ drains and drains in ward no. 08 at Kodigehalli sub division. |
| **Name of the Agency** | Sri. C. Narasaraju |
| **Date of Testing** | 09/09/2016 |
| **Grade of Steel** | Fe - 500. |

| Sl.No. | Description | Result | IS 1786-2008 Min. Requirements | Remarks |
|---|---|---|---|---|
| 1 | Measured Diameter mm | 10 | 10 | Satisfactory |
| 2 | Wt/m Length (Kg/m) | 0.618 | 0.617 | Satisfactory |
| 3 | Bend & RebendTest | Pass | Should not Crack or Fracture | Satisfactory |
| 4 | Elongation (%) | 14.1 | 12 | Satisfactory |
| 5 | Yield Stress(N/Sq.mm) | 509 | 500 | Satisfactory |
| 6 | U T S (N/Sq.mm) | 566 | 545 | Satisfactory |

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**(KHUSHBOO L.)**
**Quality Manager**

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